

N36-136495 M/TH
Amendment dated 04/15/2004

09/940,716

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Reply to office action mailed 12/17/2003

The following is a complete listing of all claims in the application, with an indication of the status of each:

Listing of claims:

- 1 1. (currently amended) A polarizing filter having a laminate structure,
comprising:
2 a first group of dielectric thin film materials;
3 a second group of dielectric thin film materials; and
4 a third layer of dielectric thin film material,
5 wherein a plurality of dielectric materials different from one another in
6 refractive index with respect to a wavelength of incident light are classified
7 into ~~a~~said first group and ~~a~~said second group so that a maximum value
8 among the refractive indices of the dielectric materials belonging to said first
9 group is lower than a minimum value among the refractive indices of the
10 dielectric materials belonging to said second group;
11 wherein at least one layer of dielectric thin film selected from the
12 dielectric materials belonging to said first group and at least one layer of
13 dielectric thin film selected from the dielectric materials belonging to said
14 second group are alternately laminated ~~on a transparent flat substrate~~ to form
15 said laminate structure, said laminate structure being mounted on a transparent
16 flat substrate; and
17 wherein ~~one~~said third layer of the dielectric thin film ~~having has~~ a
18 refractive index which is higher than the maximum value selected from said
19 refractive indices of the dielectric materials belonging to said first group and
20 which is lower than the minimum value selected from said refractive indices
21 of the dielectric materials belonging to said second group and is laminated on
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23 an outermost surface of said laminate structure, said laminate structure being
24 between said third layer and said transparent flat substrate.

1 2. (canceled)

1 3. (previously presented) A polarizing filter according to Claim 1, wherein
2 one to four layers of dielectric thin films selected from said first group and one
3 to four layers of dielectric thin films selected from said second group are
4 laminated alternately on said transparent flat substrate.

1 4. (previously presented) A polarizing filter according to Claim 1, wherein a
2 refractive index difference with respect to the wavelength of incident light
3 between adjacent dielectric thin films selected from the dielectric materials
4 belonging to said first and second groups respectively is in a range of from
5 0.15 to 1.2, both inclusively.

1 5. (previously presented) A polarizing filter according to Claim 1, wherein
2 optical film thickness of each of said dielectric thin films is in a range of 0.25λ
3 $\pm 0.15\lambda$ in which λ is a wavelength of incident light.

1 6. (previously presented) An optical device using a polarizing filter defined
2 in Claim 1, wherein an angle of incidence on said polarizing filter is in a range
3 of from 20 to 70 degrees.

1 7. (currently amended) ~~The~~^A polarizing filter of claim 1 further comprising:
2 a flat transparent substrate; and
3 at least three layers laminated one on another on said substrate, said at
4 least three layers including an outermost layer having a first refractive index,

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5 and odd and even number numbered layers, beginning with a first layer
6 adjacent to said substrate, interposed between said outermost layer and said
7 substrate, wherein:

8 a refractive index of each said odd number numbered layer is higher
9 than the first refractive index; and

10 a refractive index of each said even number numbered layer is lower
11 than the first refractive index.

1 8. (currently amended) ~~The A~~ polarizing filter of claim 1 further comprising:

2 a flat transparent substrate; and

3 at least three layers laminated one on another on said substrate, said at
4 least three layers including an outermost layer having a first refractive index,
5 and odd and even number numbered layers, beginning with a first layer
6 adjacent to said substrate, interposed between said outermost layer and said
7 substrate, wherein:

8 a refractive index of each said odd number numbered layer is lower
9 than the first refractive index; and

10 a refractive index of each said even number numbered layer is higher
11 than the first refractive index.

1 9. (previously presented) A polarizing filter according to claim 7, wherein
2 total number of at least three layers is not larger than seven.

1 10. (previously presented) A polarizing filter according to claim 7, wherein
2 the first refractive index is 1.62 or 1.46.

1 11. (original) A polarizing filter according to claim 7, wherein said at least
2 three layers are constructed by three layers, the refractive index of the first

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3 layer is 2.13, the refractive index of the second layer is 1.46, and the first
4 refractive index of the outermost layer is 1.62.

1 12. (original) A polarizing filter according to claim 7, wherein said at least
2 three layers are constructed by three layers, the refractive index of the first
3 layer is 2.13, the refractive index of the second layer is 1.40, and the first
4 refractive index of the outermost layer is 1.46.

1 13. (original) A polarizing filter according to claim 7, wherein said at least
2 three layers are constructed by seven layers, the refractive indexes of the first
3 to sixth layers are 2.13, 1.46, 2.13, 1.46, 2.13 and 1.46, respectively, and the
4 first refractive index of the outermost layer is 1.62.

1 14. (original) A polarizing filter according to claim 7, wherein said at least
2 three layers are constructed by five layers, the refractive indexes of the first to
3 fourth layers are 2.13, 1.46, 2.13 and 1.46, respectively, and the first refractive
4 index of the outermost layer is 1.62.

5 15. (original) A polarizing filter according to claim 8, wherein said at least
6 three layers are constructed by seven layers, the refractive indexes of the fist to
7 sixth layers are 1.40, 1.62, 1.40, 1.62, 1.40 and 1.62, respectively, and the first
8 refractive index of the outermost layer is 1.46.

1 16. (original) A polarizing filter according to claim 8, wherein said at least
2 three layers are constructed by five layers, the refractive indexes of the first to
3 fourth layers are 2.13, 1.40, 1.95 and 1.46, respectively, and the first refractive
4 index of the outermost layer is 1.62.

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1 17-22. (withdrawn)